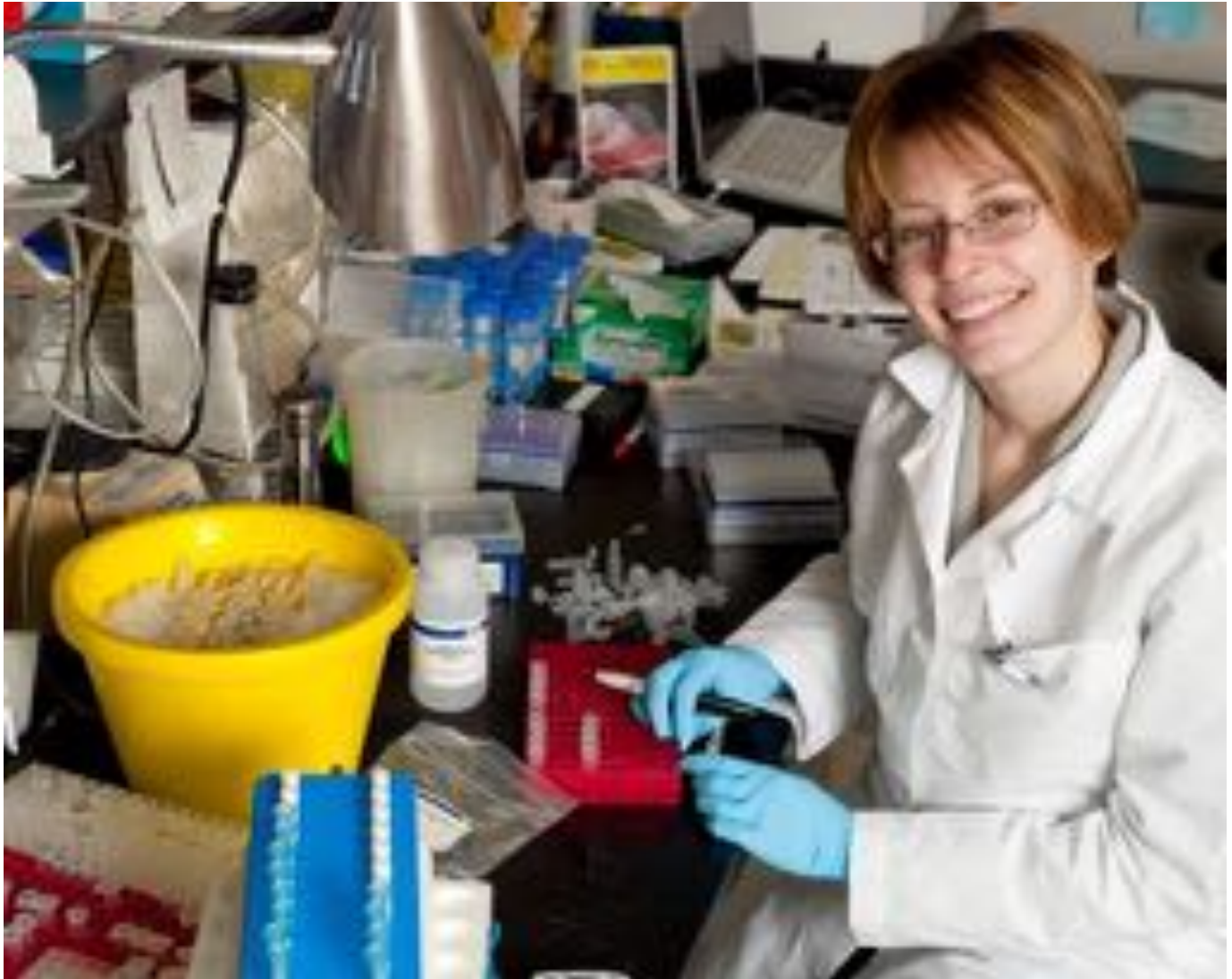


Student Handbook for the Training Program in Genetics and Development



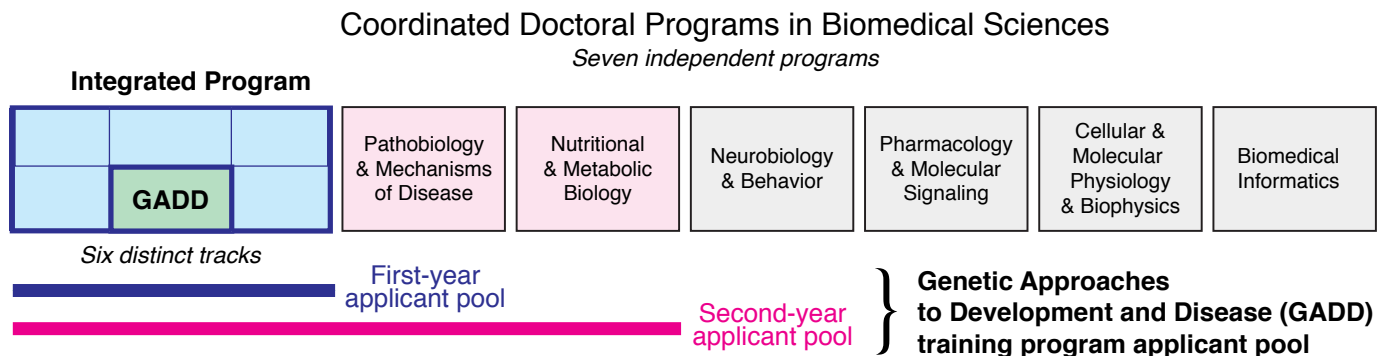
COLUMBIA UNIVERSITY
DEPARTMENT OF GENETICS
AND DEVELOPMENT

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Organization and Administration of the Graduate Training Programs at Columbia University Medical Center (CUMC)

Welcome to the Training Program in Genetics and Development at Columbia University Medical Center (CUMC). We are part of the [Coordinated Doctoral Programs in Biomedical Sciences](#) at the Health Sciences Campus of Columbia University in the City of New York. These Programs emphasize research and training diverse areas of basic biomedical sciences. The distinguishing feature of each program is a distinct curriculum that is tailored to the overall programmatic aims.



The Coordinated Doctoral Programs are part of the Columbia University [Graduate School of Arts and Sciences](#) (GSAS) which includes graduate programs on both the Columbia University Medical Center (CUMC) and main Columbia campuses. On the CUMC campus, the Office of Graduate Affairs is headed by the Associate Dean for Graduate Affairs, Dr. Arthur G. Palmer III, Ph.D. and Assistant Dean for Graduate Affairs, Yinghui Mao. The office is located at P&S 3-435. Contacts for the Graduate Affairs Office are: Phone: 212-305-8058;; e-mail: BiomedicalSciences@cumc.columbia.edu.

Individual training programs are administered by separate committees and program directors. The program directors for Genetics and Development is [Michael Shen](#) who is also the Principal Investigator of the National Institutes of Health (NIH) Ruth L. Kirschstein National Research Service Award T32 Training Grant in Genetics and Development, and [Michele Shirasu-Hiza](#), Associate Professor of Genetics and Development. A training committee of five or six faculty oversees the training program. Current members, in addition to the program director, are Laura Johnston, Chao Lu, and Luke Berchowitz.

History of the Department and Training Program

The Department of Genetics and Development had its start in 1969 as the Department of Human Genetics and Development when the Trustees voted to form the department (although without any allocation of funds for hiring faculty or providing laboratory or office space). The founding chairman, Dr. Paul Marks, had the foresight to realize the medical importance of molecular genetics. The fledgling basic science department was made up initially of faculty with joint appointments in Physicians and Surgeons (P&S) departments. In 1970, Dr. Marks was named dean of the College of Physicians and Surgeons and Dr. Robert Krooth was recruited as chairman of the department. Dr. Charles Cantor, the discoverer of pulsed gel electrophoresis, inherited Dr. Krooth's position in 1981. Dr. Cantor strengthened the department by recruiting leaders in the rapidly expanding field of molecular genetics. In a shift of focus to fundamental genetic research, the word "Human" was removed from the title and the department officially became the Department of Genetics and Development in 1985. Since Dr. Cantor's departure in 1989, the

department has been led by Dr. Argiris Efstratiadis (acting chair 1989-1993), Dr. Claudio Stern (chair, 1993-2000), Dr. Frank Costantini (acting chair 2001-2005) and since 2006, our current chairman, [Dr. Gerard Karsenty](#).

Graduate training has always been a prominent departmental activity. In 1974 the department obtained a predoctoral training grant from the National Institutes of General Medical Science. Dr. Arthur Bank was chair of the training committee through most of the 1980s and established the then unique qualifying exam process in which students had to demonstrate they were deeply immersed in a project and could carry out pertinent experiments. He was succeeded as training committee chair by Drs. Marian Carlson, Rod Rothstein and Debra Wolgemuth. In 1995, Dr. Ginny Papaioannou assumed the chair and has continued in that position until 2017. The Predoctoral Training Grant in Genetics and Development has been successfully renewed a number of times and is now in its 42nd year.

The Training Faculty

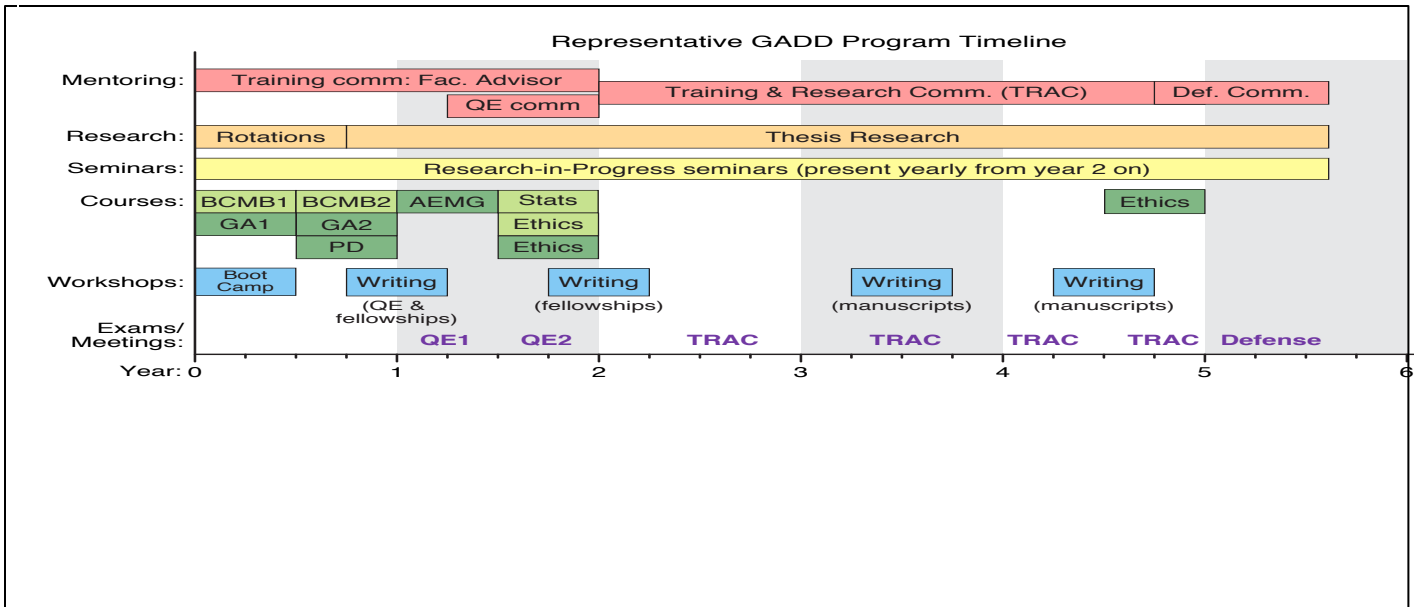
Full time faculty members of the Department of Genetics and Development (G&D) who wish to take part in graduate training become members of the Training Faculty for the Graduate Program in Genetics and Development. In addition, adjunct faculty and faculty in other departments can apply or be nominated by G&D faculty to become members of the Training Faculty. The Training Committee reviews applications and nominations and periodically reviews the composition of the Training Faculty to add or remove members.

GSAS-approved trainers from any department may serve as mentors for G&D graduate students at the student's request and with Training Committee approval, without becoming members of the Training Faculty. They must agree to abide by the policies of the program with respect to graduate training.

The Genetic Approaches to Development and Disease (GADD) Training Program

Students entering the program follow a course of study that includes research rotations in labs, required and elective coursework, seminars, a qualifying examination, and finally research in a lab of choice and defense of a thesis. The average time to the PhD degree is 6.4 years with a range of 4-7 years. The Graduate School of Arts and Sciences requires that all work for the Ph.D. degree be completed within nine years of full-time registration, less any advanced standing granted, as noted in the regulation concerning [Satisfactory Academic Progress](#). However, all GADD students are encouraged to defend within 6-7 years.

Time line of the GADD Training Program



Rotations

The wealth of opportunities available to trainees can be explored during the first year through a series of three research rotations. These involve carrying out a research project in the chosen lab and usually giving a lab presentation.

The dates of the rotations are:

- Fall rotation: mid-September – mid-December
- Winter rotation: early January – end of March
- Spring rotation: early April – end of June

First year trainees choose their rotations following faculty presentations and talks at the annual retreat. Rotations may be in the laboratories of Training Faculty members or can be done in any lab outside the training faculty. If a student wishes to do more than one outside rotation, or to do their doctoral research in a lab other than that of training faculty, consultation with the Training Committee is required. Following the third rotation, trainees will enter a lab by mutual agreement with the mentor to begin their thesis research at the end of June or early July.

Required Courses

GADD trainees follow a required curriculum during the first two years of study. Elective courses may be taken in the third or fourth year and may be required if students are funded on certain training grants. Go to <http://www.columbia.edu/cu/bulletin/uwb/> for a complete listing of available courses. Genetics and Development candidates must successfully complete the required courses listed in the following table with a grade of B- or better. Anyone receiving a C+ grade or below may be required to repeat a course at the discretion of the training committee. A cumulative GPA of B+ in required courses must be maintained

to remain in good academic standing. Course requirements are usually met within the first two years. Additional courses may be required by the training committee for individual students depending on the student's interests and background.

FIRST YEAR REQUIRED COURSES

Course #	pts.	Course Name	Description	Comments
Fall Semester				
G6210x	3	Genetic Approaches to Biological Problems I	This course is designed to illustrate how genetic systems have played a fundamental role in our understanding of basic biological problems. Topics include: mitosis and meiosis, chromosomal linkage and mapping, consequences of chromosomal rearrangements, mechanisms of recombination and gene conversion, the use of mutants to study gene structure, regulation and the cell cycle, uses of recombinant DNA in genetic analysis, and the genetic analysis of development in <i>Drosophila</i> .	A key core course for our program
G6300x	4.5	Biochemistry and Molecular Biology of Eukaryotes I	Covers information essential to successfully carrying out research in biological sciences. Topics include basic biochemical principles and processes common to all eukaryotic cells such as transcription, translation, the cell cycle, and mechanisms of cell-cell signaling, protein structure, nucleic acid structure, DNA-protein interactions, cooperative DNA binding, membranes, protein synthesis and degradation, DNA replication and repair, cell cycle, recombination in the immune system, genomic and bioinformatics.	Required core course for all PhD students
G9321x	1	Seminars in Genetics and Development	Student-organized seminar series; presentation of selected research topics.	Open only to students and postdocs in the department
G4501x	4	Methods in Genetics and Development	A survey of laboratory methods used in research. Students rotate through laboratories of the Genetics and Development faculty and faculty of the Basic Sciences Departments.	Laboratory rotations

FIRST YEAR REQUIRED COURSES (cont.)

Course #	pts.	Course Name	Description	Comments
Spring Semester				
G6211y	3	Genetic Approaches to Biological Problems II	Basic principles and current areas of interest in mouse and human genetics. Topics include an introduction to mouse genetics, X-chromosome inactivation and genomic imprinting, genetic manipulation of the mouse, genetics of mouse coat color, genetics of sex determination, human linkage analysis, somatic cell genetics, physical mapping of the human genome, cytogenetics, mitochondrial genetics and disease.	Continuation of G6210x
G6301Y	4.5	Biochemistry and Molecular Biology of Eukaryotes II	Topics include: chromatin/telomeres, transcription, RNA processing, apoptosis, imprinting, X inactivation, receptors, structure of signaling proteins, retroviruses/HIV, transcription factor signaling, cancer genetics and oncogenes.	Continuation of G6300x
G4027y	3	Principles of Developmental Biology	The course emphasizes the molecular control of vertebrate embryogenesis. Divided into three main areas: early embryogenesis, developmental neurobiology, and the development and differentiation of specialized organs or lineages.	Offered every other year
G9322y	1	Seminars in Genetics and Development	Student-organized seminar series; presentation of selected research topics.	Open only to students and postdocs in the department
G4502y	4	Methods in Genetics and Development	A survey of laboratory methods used in research. Students rotate through laboratories of the Genetics and Development faculty and faculty of the Basic Sciences Departments.	Laboratory rotations continue in summer

SECOND YEAR REQUIRED COURSES

Course #	pts	Course Name	Description	Comments
Fall Semester				
G4050x	4	Advanced Eukaryotic Molecular Genetics	Advanced treatment of the principles and methods of the molecular biology of eukaryotes, emphasizing the organization, expression and evolution of eukaryotic genes. Topics include reassociation and hybridization kinetics, gene numbers, genomic organization at the DNA level, mechanisms of recombination, transposable elements, DNA rearrangements, gene amplification, oncogenes, recombinant DNA techniques, transcription and RNA splicing.	The jewel in the crown
G9321x	1	Seminars in Genetics and Development	Student-organized seminar series; presentation of selected research topics.	Open only to students and postdocs in the department
Spring Semester				
G4010y	1	Ethics and Policy of Scientific Research	Topics include: career paths in sciences, normative issues in authorship of scientific publications, data sharing and data secrecy, ownership of scientific and technical information, scientific misconduct, the historical record of conflict and consensus between science and the goals of government and the relationship between federal scientific policy issues and academic scientists.	Discussion sections for Genetics and Development students registered for this course as well as for students in their 6 th year are held in conjunction with the lectures
G8012y	1	Statistics for the Basic Sciences	This course covers the basic tools for the collection, analysis, and presentation of data. Central to these skills is assessing the impact of chance and variability on the interpretation of research findings and subsequent recommendations for public health practice and policy. Topics include general principles of study design, estimation, hypothesis testing, methods for comparison of discrete and continuous data including chi-square test of independence, t-test, ANOVA, correlation and regression.	A requirement for all students
G9322y	1	Seminars in Genetics and Development	Student-organized seminar series; presentation of selected research topics.	Open only to students and postdocs in the department

Seminar Series

The course, G9321x/9322y Seminars in Genetics and Development, is organized and run by the students and postdocs in the department and features their work. It provides a forum to meet with peers and gain experience presenting and critiquing ongoing research. Faculty members are generally excluded from these sessions without special invitation. Thesis defense seminars, which are open to faculty and students, are scheduled as part of this seminar series. Attendance is mandatory for registered students, although 2 unexcused absences per term are allowed. The department has an active weekly seminar series with speakers from around the world. As part of this series, first and second year Genetics and Development students, as well as advanced students have the opportunity to select and host speakers.

Qualifying Exams

The Qualifying Examination in the Department of Genetics and Development is a two part process involving a presentation to a committee of the student's research activities in the laboratory: Part I should be completed by **December 31st** of year two. Part II must be completed by **June 30th** of year three. The Qualifying Exam has as its major goal determining whether a student is capable of Ph.D. thesis research. The Qualifying Committee is concerned with two questions in this regard: 1) Is the student expert enough in his/her field of research interest to pursue thesis research? 2) Is the student qualified to do the laboratory 'bench' research required for a Ph.D. project?

Part I

For Part I, a 3-5 page double-spaced research proposal for the ensuing 6-month period should be presented to the committee at least one week prior to the exam, which is an oral (PowerPoint) presentation with questions and discussion. The proposal should be in the format of a grant proposal or fellowship application covering the following:

- Overall hypothesis
- Background and Significance/Rationale
- Preliminary Studies/Data
- Aims
- Future Directions
- Timeline

Part II

For Part II, a 5-7 page double-spaced summary of research in the format of a progress report should be provided to the committee one week prior to the exam. It should include the following sections:

- Cover Page (1 page maximum) – describe your past six months work
- Specific Aims (1 page) – reintroduce your committee members to your project as it is currently conceived
- Main Proposal (5 pages)
- Literature Cited

The exam itself is an oral (usually PowerPoint) presentation to the committee with questions and discussion. Following the presentation of Part II, the student will receive a grade of Pass, Contingent Pass, contingent upon satisfying prescribed conditions, or Fail. In the event of a failing grade, the Training Committee, in consultation with the Qualifying Exam Committee and mentor, will determine

whether the student leaves the program or is allowed a reexamination. There is no requirement for completion of a specific research project to pass the Qualifying Examination. The Qualifying Committee must simply be convinced that the student is capable of undertaking thesis research by virtue of their evaluation of the student's research plan, laboratory work and understanding of the thesis research area. The program director may solicit information from the student's mentor prior to Part II of the Qualifying Exam.

Composition of the Qualifying Committee

The Qualifying Committee should consist of three members of the GADD [Training Faculty](#), excluding the mentor. In exceptional circumstances, one faculty member may be chosen from outside the Training Faculty, subject to prior approval by the Training Committee. The Qualifying Committee should include members who will afford the broadest service to the student as well as enough expertise in the area of the student's research to adequately evaluate the student's knowledge and laboratory progress. The Qualifying Committee is chosen by the student and his/her mentor.

Thesis Research Preparation and Defense

Thesis Research Advisory Committee (TRAC)

After completion of the Qualifying Examination, the student will meet at least once per year with a monitoring committee, the Thesis Research Advisory Committee (TRAC for short), that will advise on the thesis work and monitor progress. The Committee will include the mentor/advisor and two other members. One member may be chosen from outside the [Training Faculty](#), subject to prior approval by the Training Committee. The composition of the Qualifying Committee and the TRAC need not be identical.

The annual TRAC meeting should be held between September 1st and November 30th. For this meeting, the student will submit, at least 3 days in advance, a one-page summary of the previous year's work and a one-page outline of proposed work for the following year. Notebooks with supporting data can be brought to the meeting and other materials (papers, recent posters, etc.) may be presented, at the discretion of TRAC. The student will usually present an oral progress report with slides (PowerPoint or similar). Additional meetings may be scheduled at the request of either the student or the TRAC, and should be scheduled more frequently (i.e. every 4-6 months) once the student enters his/her 6th year.

Five to seven months prior to the anticipated thesis defense, there must be a meeting of the TRAC to approve the thesis outline. One of the annual TRAC meetings may serve this purpose if the timing is appropriate. Each member of the committee should be provided with an outline of chapters one week in advance. Any disagreement between student and advisor on thesis content will be mediated by the TRAC.

Ph.D. Thesis Format

Introductory chapter

Chapters of original data, published articles, etc.

- first author papers or manuscripts may be included as is;
- other reprints or manuscripts may be included at the discretion of sponsor and faculty members of the committee;
- if anyone other than the student contributed to the experimental work reported in the chapter or paper, this should be acknowledged in a preface and the student's contribution should be explained.

Discussion chapter

Composition of the Thesis Defense Committee

The Thesis Defense Committee is composed of 5 members. Three must be from the Training Faculty or TRAC. These will usually include: the committee chair, the mentor/sponsor (who is the first reader), and a second reader, who reads the thesis prior to its distribution to the Thesis Defense Committee. In addition, there should be two outside examiners from other GSAS departments and/or other universities. It is usually advantageous to have TRAC members serve on the Thesis Defense Committee.

Dissertation Defense

Information about submitting and defending a dissertation can be found at the GSAS [Dissertation Office](#) by following [10 steps](#). The Application of Dissertation Defense form should be submitted at least eight weeks in advance of the anticipated date of defense. No defense will be scheduled until the dissertation sponsor and second reader have signified that the dissertation is acceptable enough to warrant a defense and final exam. Copies of the dissertation should be distributed to the committee members at least four weeks before the anticipated defense date. As a courtesy, these should be printed, bound copies (e.g. in a pressure binder).

Degrees Awarded: MA, MPhil, PhD

The Training Program in Genetics and Development admits candidates only for the PhD degree, although two other degrees are awarded in the course of studies. At the completion of the required courses in the first two years and 4 residence units (e.g. four terms of residence), a Master of Arts (MA) degree is awarded. Upon the successful completion of the Qualifying Exam and 6 residence units, the Masters on Philosophy (MPhil) degree is awarded. Finally, upon successful completion of the Thesis Defense and deposition of the thesis, as well as all previous requirements, the Doctor of Philosophy (PhD) is awarded.

Funding and General Tax Information

All trainees are fully funded throughout their PhD course to a maximum of 7 years, contingent on satisfactory progress. Support comes from several sources including training grants, the Office of Graduate Affairs ('Dean's money'), individual fellowships or research grants. The Training Grant in Genetics and Development, which is open to US citizens and permanent residents, normally funds students in their first year. If funds allow, second or third year students may be funded on a competitive basis. All students are required to apply for individual fellowships from the [National Science Foundation](#), the [National Institutes of Health](#), and [other sources](#) for which they are eligible, including other specialized training grants and private foundations (e.g. the [Soros Foundation](#) fellowships for new Americans).

From the [VP&S Student Handbook](#):

1. Compensation: Students are paid either of two ways; as a Predoctoral Fellow (Fellow) or as a Graduate Research Assistant (GRA). Fellows are paid from Dean's funds, department monies, training grants or outside fellowships. GRAs are paid from research grants or other sponsored projects. It is most common for students to begin their studies as Fellows and then switch to GRA status in subsequent years. All biomedical Ph.D. students will receive a stipend of \$39,504 (prorated) for 2018-2019.

Fellows receive stipend payments three times a year. The summer stipend covers July 1 – August 31; the fall stipend covers September 1 through January 15; and the spring stipend covers January 16 through June 30. GRAs receive salary checks biweekly, on the 15th and on the last business day of each month.

For Genetics and Development students specifically:

In your first year, you will be a Predoctoral Fellow. US Residents are Fellows on the Genetics and Development Training Grant, which is a T-32 Training Grant from the National Institutes of Health. International Students are Dean's Fellows, supported by the University.

In your second year, your lab is responsible for your funding, but you may continue on the Genetics and Development Training Grant, you may receive Dean's Funds for part or all of the year, you may compete for a different Training Grant, or you could be covered as a GRA by your Lab. This will depend on several factors including which lab you join, what funds are available, your grades, and your research interest (which will determine which Training Grants you might be eligible for.)

After the second year, your lab is responsible for finding your funding. You might be appointed as a GRA if your lab has effort available on an appropriate grant. You might compete for subject-specific Training Grants. You can apply for F31 or F-32 Research Fellowships from the NIH and NSF. And/or you can apply for funding from private foundations.

Jooyeon Kim is available to help you and answer questions, so just stop by our office in HHSC room-1602 if you need assistance.

From the VP&S Student Handbook:

2. Direct Deposit: *All students should sign-up for direct deposit to receive their payments. Domestic students receiving stipend checks can request direct deposit by logging into Student Services Online (SSOL) at <https://ssol.columbia.edu/> and selecting "Direct Deposit Authorization" from the "Account" menu. International students receiving stipend can sign-up for direct deposit after they have received one physical check. Log in with your UNI and password at <https://my.columbia.edu/>. Once logged in, click on the "Faculty and Staff" link at the top. Click on "View Your Direct Deposit Information" to enter your banking information and set up direct deposit. All students receiving GRA payments can sign-up for direct deposit by logging in to <https://my.columbia.edu> and selecting the "Faculty & Staff Self-service" tab.*

From the VP&S Student Handbook:

3. External Award Policy: *Students who apply for and receive competitive external awards may be eligible for stipend supplementation. This policy does not apply to all external awards so please check with the Office for Graduate Affairs (OGA) for specific awards. This is a real thing, especially for NIH and NSF fellowships. [Contact OGA](#).*

From the VP&S Student Handbook:

4. Taxes: *All students who receive payments either as Pre-doctoral Fellows or GRAs are responsible for declaring these payments on their tax returns. However, the interpretation and implementation of the tax laws are the domain of the Internal Revenue Service and the courts. Columbia University takes no position on what the status may be for a particular taxpayer, and it does not have the authority to dispense tax advice. Taxes are not deducted from Fellow's stipend checks for US citizens, Permanent Residents, or foreign nationals whose country has an appropriate tax treaty with the United States. Fellows have the option of filing quarterly estimated tax payments with the IRS. If you have not*

completed a tax treaty form or if you are not certain if there is a treaty in effect, please see the OGA. Foreign nationals whose country of citizenship does not have a tax treaty with the United States will have a 14% withholding tax deducted from their stipend check.

Taxes are deducted from GRA salary checks. The W-4 (federal) and IT-2104 (city/state) withholding forms you complete will determine the amount of the deduction.

Domestic students paid as fellows will not receive a W-2 form from the University. International students paid as fellows will receive a 1042-S form at the beginning of the calendar year.

All GRAs will receive a W-2 form. Since student compensation is considered an award for training and not wages for services, Social Security is not deducted.

For Genetics and Development students specifically:

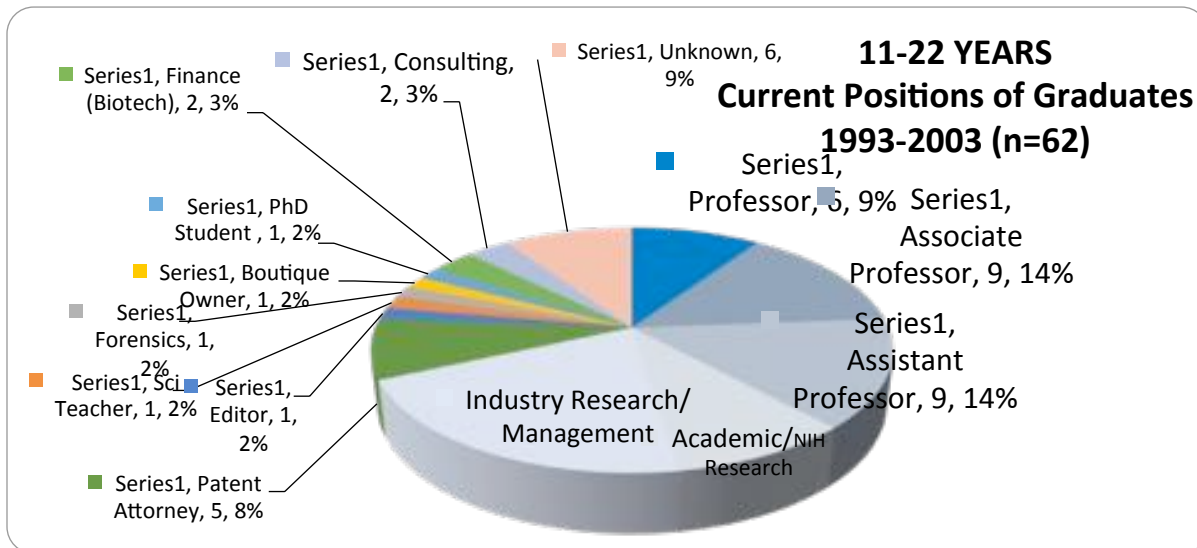
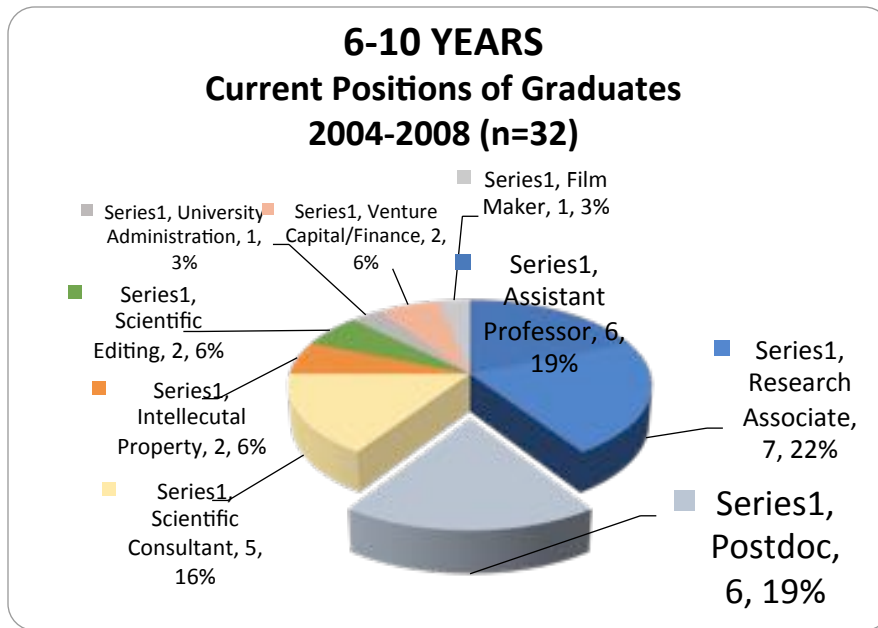
When you are a fellow, **you will not receive a W-2 form**. You may receive a 1099, but more likely, you will receive a 1098T. Fellowships fall into a tricky part of tax law, and we strongly suggest that you get advice from a tax professional when preparing your annual tax return. Here are some things to consider:

- A fellowship grant is not earned income. It is considered funds to assist with your training. Education-related expenses may be considered non-taxable in certain circumstances.
- Your 1098T reflects your fellowship and also other fees and tuition covered by the university. The number you see on your 1098T therefore will not be the same amount as your stipend, but will probably be considerably higher.
- You are not an employee of the university or self-employed. Fellowship funds are not subject to self-employment tax.
- All of the above assumes that you are still enrolled at Columbia during the taxable period. If you leave Columbia, your tax obligations may be different.

GRAs are taxed as regular employees and will receive a W-2.

Career Paths of Past Trainees

At the completion of training, Genetics and Development graduates are thoroughly prepared for research careers in areas of genetics, molecular genetics, and developmental genetics. We maintain a database of the current positions of former trainees to track their careers at different stages and to provide contacts in industry and academia. Of 32 recent graduates, 78% are currently in postdoctoral research positions. Of the remaining 22%, one each is in law school, investment banking, data management, scientific consulting, science-related market research, health communications and science teaching. In other words, almost all graduates enter research or science-related careers immediately following training.



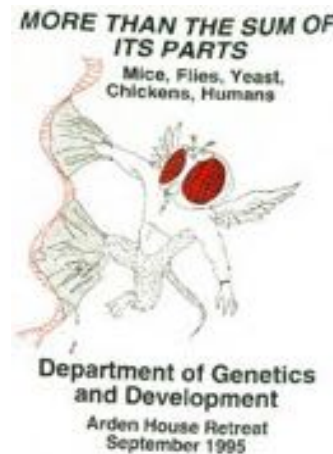
Of 32 past trainees who graduated 6-10 years ago, over 90% are in science-related careers. Some have moved into tenure track academic positions, many are in research associate or postdoctoral positions, some are consultants, and there is a scattering of other careers such as intellectual property lawyer, scientific editing, and university administration. Only a few are in non-science related careers, such as film making and finance, although they may take advantage of their training in a different capacity in these careers.

The Departmental Retreat

A signature feature of the training program is the annual two-day departmental retreat held early in the

fall semester at a conference center outside New York City. All training faculty, department faculty, students and postdocs are invited to attend and most present either talks or posters. It is a much anticipated social and scientific event that serves to introduce new students to the program and to the variety of research taking place in the department. It provides an opportunity for incoming students to meet both faculty and other students. For the faculty, students and postdocs alike, it is a productive time to formulate new ideas, form new collaborations and catch up on the latest dance steps. The majority of talks are by students or postdocs, and students gain experience chairing scientific sessions.

At the social in the evening, students present skits, usually a good-natured roasting of the faculty; there is music and dancing, and a T-shirt design contest.



Why Study Here

Here are **nine** reasons to [apply](#):

1. Outstanding training faculty that pursue world-class research at the frontiers of genetics, DNA recombination and repair, mammalian genomics, physiology, stem cell biology, and cancer.
2. Expertise in molecular genetic analyses of model organisms (yeast, worms, flies, and mice)

3. A rigorous curriculum that prepares students for cutting-edge research
4. Strong mentorship led by training faculty with a commitment to supporting graduate research
5. A small program where all of the faculty know your name...
6. ... yet in the context of a large community of graduate students in the biomedical sciences
7. Ability to pursue thesis research in any laboratory at Columbia University
8. A long track-record of success by graduate trainees in their subsequent careers
9. Distinguished history and tradition that is supported by a training grant in its 43rd year

How to Apply

We are part of the [Coordinated Doctoral Programs in Biomedical Sciences](#) at the Health Sciences Campus of Columbia University in the City of New York. These Programs emphasize research and training diverse areas of basic biomedical sciences. The distinguishing feature of each program is a distinct curriculum that is tailored to the overall programmatic aims.

The Coordinated Doctoral Programs are part of the Columbia University [Graduate School of Arts and Sciences](#) (GSAS) which includes graduate programs at both the Columbia University Irving Medical Center (CUIMC) and main Columbia campuses.

You must apply through the [Biomedical Doctoral Programs](#). * Applications are generally open from mid-September to early December. To apply, go to <https://phdapply.cumc.columbia.edu/security/login.aspx?ReturnUrl=%2fdefault.aspx>

Individual training programs are administered by separate committees and program directors. The program director for Genetics and Development is Michael Shen (ms3625@cumc.columbia.edu) who is also the Principal Investigator of the National Institutes of Health (NIH) Ruth L. Kirschstein National Research Service Award T32 Training Grant in Genetics and Development. A training committee of five or six faculty oversees the training program. Current members, in addition to the program director, are Laura Johnston, Eric Schon, Gary Struhl, Alberto Ciccia, and Mimi Shirasu-Hiza. Please contact Jooyeon Kim (jk2857@cumc.columbia.edu) for training program administrative activities.

Graduate Student Life

Graduate Student Organization (GSO)

[The Graduate Student Organization](#) represents the interests and concerns of the students in the various biomedical sciences graduate programs at the Columbia University Medical Center. The GSO meets on a regular basis to promote social and academic interactions among students from the different programs, represent and voice the general interests regarding graduate student life issues, encourage the integration of new graduate students into the student body, and provide graduate students with opportunities to be positively involved in the communities of our school and the greater city of New York. The GSO is run by a group of elected graduate students who represent the diverse student body and support the utmost personal, intellectual, and social development of all graduate students it

represents. The GSO provides a forum in which voices can be heard and actions can be taken to enhance the everyday life of Columbia University graduate students.

Part of the educational process involves pursuing creative interests outside the chosen discipline, and the [P&S Club](#) supports over fifty extra-curricular student activities clubs to that end. Clubs focused on international health, community education, and ethics provide numerous ways to get involved. And social clubs offer culinary delights, speakers, movies and many more ways to explore cultural diversity at P&S. GSAS students have participated in Bard Hall Players productions, the Photography Club, the Free Weight Club, the Musicians' Guild and the Social Dance Club, to name just a few.

Campus Housing and Facilities

Living on campus provides individuals with the opportunity to take advantage of all of the resources Columbia University and the City of New York have to offer. All of the residential buildings are located at the Medical Center and are within walking distance of academic buildings and labs, the library, the campus athletic center and the city's subway and bus system. [Campus accommodations](#) for students include a wide range of offerings from single dormitory rooms, to 2, 3 and 4 person suites to one bedroom apartments at affordable [monthly rates](#).

Newly accepted students who will be enrolled full-time are eligible to apply for CUMC housing. Individuals must maintain full time matriculated student status to remain in campus housing. October and February graduates have until the end of the month in which they graduate to move out of University housing. May grads continuing at CUMC as post-doctoral research fellows may apply to continue in University housing. This continuation is offered for a maximum of one year. Upon approval, post grads occupying single student designated accommodations are re-assigned to campus studio apartments. Individuals occupying student couples housing will maintain their current apartment.

[Bard Athletic Center](#) (BAC), located in Bard Hall, is a comprehensive facility designed to meet the fitness needs of students. All Medical Center students must register and obtain a BAC validation sticker from the Office of Housing Services. This sticker when affixed to the CUMC I.D. provides students access to and use of the facility. Students are not charged an access fee. Additional fees are associated with exercise programs and other services offered by the BAC.

Student Health Services

[The Student Health Service](#) at Columbia University Medical Center is the primary resource for all student health care needs. Their office is located in

IMPORTANT TELEPHONE NUMBERS



Genetics & Development:

212-305-4011

Housing Office:

212-304-7000

Office of Graduate Affairs:

212-305-8058

Student Health Services:

212-305-3400

Registrar:

212-342-4790

Student Accounts:

212-305-3633

International Affairs:

212-305-5455

I.D. Office:

212-305-0238

Office of Public Safety:

7-7979 (on-campus)

212-305-8100

60 Haven Avenue, Tower 1, on the lobby floor (clinical services) and the 3rd floor (administrative & insurance services).

SHS provides a full range of primary care medical services, mental health services, and health promotion and wellness services. The clinical staff consists of physicians, a physician assistant, nurses, medical assistants, psychiatrists, psychologists and health educators. Appointments may be scheduled either by telephone (305-3400, press 1) or in person.

Columbia University Medical Center provides a comprehensive system of health care for students, their spouse or partner, and dependent children. There are two major parts to the system, which are charged separately:

- Student Health Service (SHS) [Fees](#)
- Aetna Student Health Insurance Plan [Fees](#)

The Aetna Student Health Insurance Plan links the on-site resources of the Student Health Service with the specialty consultations and diagnostic resources of the Aetna Network, which is international in scope.

Enrollment in the Aetna Student Health Insurance Plan (SHIP) is automatic for all full-time students. If you have comparable coverage, you may waive the SHIP. The waiver must be completed each insurance year. The insurance year begins August 17th of each year.

The [Aetna Student Health Insurance Plan](#) is sponsored by Columbia University Medical Center. The school policy number is 812835.

Individual Development Plan

The Columbia University Individual Development Plan (IDP) Program assists NIH-funded graduate students and postdoctoral researchers with the implementation of IDPs, which consist of a self-assessment of skills, interests, and values that guides the development of short- and long-term plans to achieve career goals. The program comprises seminars and other events designed to help develop an IDP, followed by additional resources such as workshops, career panels, and peer mentoring groups that can assist in identifying career goals and completing an IDP.

The program is co-sponsored by the Office of the Executive Vice President for Research, through the Office of Postdoctoral Affairs (OPA), and the Graduate School of Arts and Sciences. Visit the [IDP website](#) to get started.

ONLINE RESOURCES

ONLINE RESOURCES

[*Academic Calendar*](#)

[*GSAS Events Calendar*](#)

[*Directory of Classes*](#)

[*Dissertation Office*](#)

[*E-mail and IT Support*](#)

[*Housing Services*](#)

[*I.D. Information*](#)

[*International Students*](#)

[*Student Administrative Services*](#)

[*Student Health Services*](#)

[*Students Services Online*](#)

[*Campus Map*](#)

[*Individual Development Plan*](#)